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ATTORNEY DOCKET NO. 9013.27

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Cooper, et al.  
Serial No.: 09/787,311  
Filed: 3 October 2001  
For: ARTIFICIAL OLFACTORY SENSING SYSTEM  
Group Art Unit: 1741

January 23, 2002

Commissioner for Patents  
Washington, DC 20231

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TC 1700

REQUEST FOR CORRECTED FILING RECEIPT

Sir:

In reviewing the Filing Receipt (copy attached) for the above referenced application, Applicants note that the city of residence is listed as Glasgow rather than Glasgow as listed in the Declaration (copy attached).

Additionally it is noted that the Domestic Priority data reflects PCT/GB99/01870 rather than PCT/GB99/02870 as indicated on the face of the priority document submitted (copy attached).

Applicants further respectfully request that a corrected filing receipt be issued.

Respectfully submitted,

Kenneth D. Sibley  
Registration No. 31,665



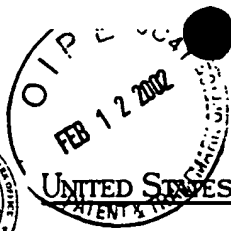
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PATENT TRADEMARK OFFICE

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner For Patents, Washington, DC 20231, on January 23, 2002.

Vickie Diane Prior  
Date of Signature: January 23, 2002



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COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
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| APPLICATION NUMBER | FILING DATE | GRP ART UNIT | FIL FEE REC'D | ATTY. DOCKET NO | DRAWINGS | TOT CLAIMS | IND CLAIMS |
|--------------------|-------------|--------------|---------------|-----------------|----------|------------|------------|
| 09/787,311         | 10/03/2001  | 1741         | 1044          | 9013.27         | 2        | 23         | 3          |

CONFIRMATION NO. 8228

20792  
MYERS BIGEL SIBLEY & SAJOVEC  
PO BOX 37428  
RALEIGH, NC 27627

FILING RECEIPT



\*OC000000006924704\*

Date Mailed: 10/23/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

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Domestic Priority data as claimed by applicant

THIS APPLICATION IS A 371 OF PCT/GB99/01870 09/14/1999

Foreign Applications

UNITED KINGDOM 9820009.9 09/14/1998

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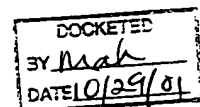
APR 02 2002

TC 1700

Projected Publication Date: Not Applicable, filed prior to November 29,2000

Non-Publication Request: No

Early Publication Request: No



Title

Artificial olfactory sensing system

Preliminary Class

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Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

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DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

Attorney Docket No. 9013-27

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled ARTIFICIAL OLFACTORY SENSING SYSTEM

the specification of which

☐ is attached hereto

OR

☒ was filed on March 14, 2001 as United States Application No. or PCT International Application Number 09/787,311 and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below any foreign application for patent or inventor's certificate, or of any PCT International application having a filing date before that of the application on which priority is claimed.

|        |         |                  |  |
|--------|---------|------------------|--|
|        |         |                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Number | Country | MM/DD/YYYY Filed | Priority Claimed   |
|        |         |                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Number | Country | MM/DD/YYYY Filed | Priority Claimed   |
|        |         |                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Number | Country | MM/DD/YYYY Filed | Priority Claimed   |

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I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

|                       |                          |
|-----------------------|--------------------------|
|                       |                          |
| Application Number(s) | Filing Date (MM/DD/YYYY) |
|                       |                          |
| Application Number(s) | Filing Date (MM/DD/YYYY) |

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or § 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application (37 C.F.R. § 1.63(d)).

|                   |                 |                                      |
|-------------------|-----------------|--------------------------------------|
|                   |                 |                                      |
| Appln. Serial No. | Filing Date     | Status<br>Patented/Pending/Abandoned |
| 9820009.0         | 14 SEPTEMBER 98 |                                      |
| Appln. Serial No. | Filing Date     | Status<br>Patented/Pending/Abandoned |
|                   |                 |                                      |
| Appln. Serial No. | Filing Date     | Status<br>Patented/Pending/Abandoned |

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the practitioners associated with the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, and direct that all correspondence be addressed to that Customer Number:

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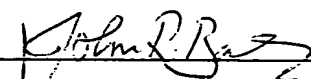
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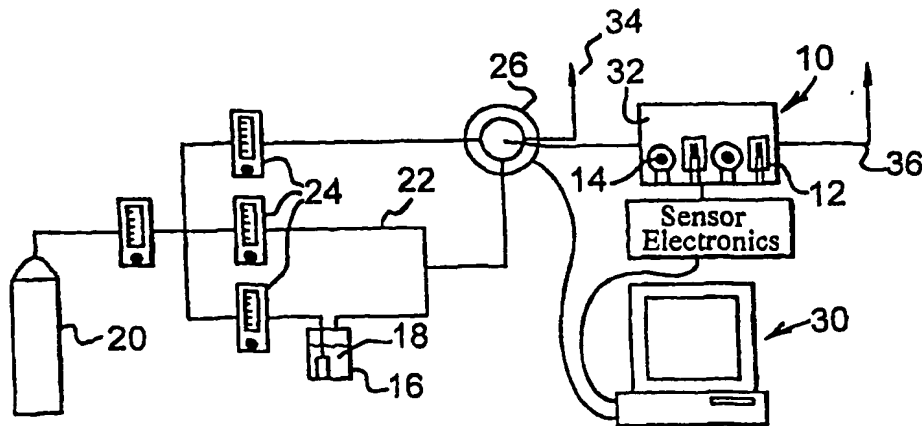
WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

|  |  |   |
|--|--|---|
| (51) International Patent Classification 7 :<br>G01N 33/00   | A1   | (11) International Publication Number: WO 00/16096<br>(43) International Publication Date: 23 March 2000 (23.03.00) |
| <p>(21) International Application Number: PCT/GB99/02870</p> <p>(22) International Filing Date: 14 September 1999 (14.09.99)</p> <p>(30) Priority Data:<br/>9820009.0 14 September 1998 (14.09.98) GB</p> <p>(71) Applicant (for all designated States except US): THE MINISTER OF AGRICULTURE, FISHERIES &amp; FOOD IN HER BRITANNIC MAJESTY'S GOVERNMENT OF THE UNITED KINGDOM AND NORTHERN IRELAND Ministry of Agriculture, Fisheries &amp; Food [GB/GB]; Noble House, 17 Smith Square, London SW1P 3JR (GB).</p> <p>(72) Inventor; and<br/>(75) Inventor/Applicant (for US only): COOPER, Jonathan [GB/GB]; Dept. of Electronics and Electrical Engineering, University of Glasgow, Glasgow G12 8QQ (GB).</p> <p>(74) Agents: McCALLUM, William, Potter et al.; Cruikshank &amp; Fairweather, 19 Royal Exchange Square, Glasgow G1 3AE (GB).</p> | <p>(81) Designated States: AU, CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p>Published<br/>With international search report.<br/>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</p> |   |

(54) Title: ARTIFICIAL OLFACTORY SENSING SYSTEM



(57) Abstract

An artificial olfactory sensing system is provided comprising a sensor array (10) including volume-change sensors (12) and mass-change sensors (14), the responses of which sensors may be combined to provide an output characteristic of the molecular density of the analyte. Vapour to be analysed is passed into a sensor chamber (32) containing multiple chemoresistor volume-change sensors (12) and quartz microbalance crystal sensors (14). The responses are analysed by computer (30), as hardware or a neural network. The chemoresistors (12) are fabricated from a non-conductive polymer doped into conductive carbon black, as multifingered interdigitated electrodes. Also described is a system and method for detecting an analyte in a fluid.